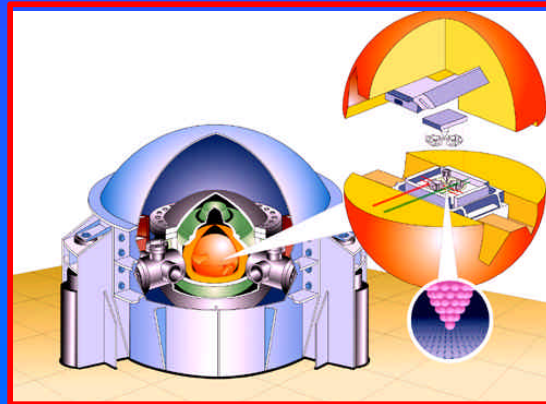


# Molecular Measuring Machine Research and Development Project Leader: John Kramar

## 2001 Deliverables

- Complete a fully operational and user-interfaced instrument capable of 10 nm accuracy two-dimensional feature placement measurements over a 50mm by 50 mm measurement area, and having sub-nanometer feature and measurement resolution.



## Customers and Collaborators

- NASA
- Argonne National Laboratory

## FY 2000 Accomplishments

- Reassembled  $M^3$  with redesigned components.
- Demonstrated lattice-resolved imaging under closed-loop control.
- Improved user interface and control algorithms.

## FY 2001 Plans

- Validate the scale and geometry of  $M^3$  measurements against a known crystal lattice.
- Restore operation of the temperature control system.
- Validate long-distance pitch measurements using LFAD Cr gratings.
- Measure customer gratings.

